DOCUMENT RESUME

ED 285 937 UD 025 727

TITLE	Sarah J. Hale High School Project BEAM-UP, 1985-86. OEA Evaluation Report.
INSTITUTION	New York City Board of Education, Brooklyn, N.Y. Office of Educational Evaluation.
SPONS AGENCY	Department of Education, Washington, DC.
PUB DATE	86
GRANT	G00-830-3738
NOTE	26p.; Prepared by the OEA Bilingual Evaluation Unit. For a related document, see ED 245 041.
PUB TYPE	Reports - Descriptive (141) -- Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Academic Achievement; Achievement Gains; Attendance; *Bilingual Education Programs; Bilingual Students; Criterion Referenced Tests; English (Second Language); Haitian Creole; Haitians; High Schools; *Limited English Speaking; *Native Language Instruction; Spanish; Urban Education

ABSTRACT

Project BEAM-UP offers English as a second language (ESL), native language arts, and bilingual content-area instruction to students of limited English proficiency (LEP) in grades 9 through 12 at Sarah J. Hale High School in Brooklyn, New York. The student participants speak Spanish or Haitian Creole. The goal of the program is to help these students improve their English skills so that they can participate in mainstream courses. This report describes the project and assesses the achievement gains of the 251 students served during the third program year, 1985-86. The major findings are the following: (1) students surpassed the monthly mastery objectives of the criterion tests; (2) students showed statistically significant gains in English reading achievement; (3) a 70% passing rate in native language arts was achieved by Haitian Creole-speaking students; (4) the passing rates for program students were higher than those of mainstream students in math and science; (5) 71% of the students enrolled in business/vocational courses achieved the 65% passing criterion; and (6) the attendance rate of program students was significantly higher than the schoolwide rate. The program could be improved by lowering the class size and by reconstructing the classroom walls to lower the noise level. Five tables of statistics are included in the report. (VM)

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SARAH J. HALE HIGH SCHOOL

PROJECT BEAM-UP

1985-86

OEA Evaluation Report

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O.E.A. Evaluation Section Report

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Grant Number: G00-830-3738

SARAH J. HALE HIGH SCHOOL

PROJECT BEAM-UP

1985-86

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Albert Vazquez

Project Director:
Alba del Valle

Prepared by the
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A SUMMARY OF THE REPORT

In its third year of operation, Project BEAM-UP offered English as a second language (E.S.L.), native language arts, and bilingual content-area instruction to 251 Spanish- and Haitian Creole-speaking students of limited English proficiency (LEP) in grades nine through twelve at Sarah J. Hale High School in Brooklyn. Sixty-nine percent of the project students were born in Haiti. The remaining students were native speakers of Spanish from Central and South America, Puerto Rico, and the Dominican Republic.

The project sought to help LEP students improve their English language skills so they could participate in mainstream courses. All students received instruction in E.S.L. and native language arts as well as in academic content areas. Unique to the project was the students' opportunity to take career-related courses, such as hairstyling, keyboarding, word processing, and health services.

Title VII funds supported administrative and support services staff; instructional positions were supported by tax-levy funds. Support services for program students included individual academic guidance, personal counseling, and communication with families.

Program objectives were assessed in English language development (Criterion Referenced English Syntax Test [CREST] and the New York City Reading Test); mastery of the native language (teacher-made tests); business and vocational subjects (teacher-made tests); and attendance (school and program records). Quantitative analysis of student achievement data indicates that:

-- Overall, students surpassed the program criterion of mastering one CREST objective per month of instruction both semesters.

-- Students showed statistically significant gains in English reading achievement, thus meeting the proposed objective.

-- The program objective of a 70 percent passing rate in native language arts courses was achieved by Haitian Creole-speaking students both semesters.

-- The spring passing rates for program students were significantly higher statistically than that of mainstream students in the areas of mathematics and science, but not in social studies. Thus the program objective was partly met.

-- Seventy-one percent of the students enrolled in business/vocational courses achieved the 65 percent passing criterion, thus exceeding the program objective.

-- The attendance rate of program students was significantly higher than the schoolwide rate. The objective was therefore met.

The program could be improved if it had smaller classes, at present class size is generally large.

ACKNOWLEDGEMENTS

The production of this report, as of all Office of Educational Assessment/Bilingual Education Evaluation Unit reports, is the result of a cooperative effort of regular staff and consultants. In addition to those whose names appear on the cover, Eulalia Cabrera has interpreted findings and has integrated material into reports. Arthur Lopatin has edited the reports following the O.E.A. style guide and has written report summaries. Finally, Joseph Rivera, Marcia Gilbert, Bruce Roach, Gladys Rosa, and Martin Zurla have worked intensively as word processors to produce and correct reports. Without their able and faithful participation, the unit could not have handled such a large volume of work and still produced quality evaluation reports.

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PROJECT BEAM-UP

(Bilingual Educational Alternatives Mean Upward Mobility and Planning

Location:	Sarah J. Hale High School 345 Dean Street Brooklyn, New York 11217
Year of Operation:	1985-86 (Final year of a three-year Title VII funding cycle)
Languages of Instruction:	Spanish, French, Creole, English
Number of Participants:	251 students of limited English proficiency
Principal:	Albert Vazquez
Project Director:	Alba del Valle

I. PROGRAM DESCRIPTION

Project BEAM-UP completed its third year of operation at Sarah J. Hale High School in June 1986. For over a decade, Sarah J. Hale has offered a variety of bilingual education programs. The school began by offering special assistance to Hispanic students of limited English proficiency (LEP) and later expanded these services to include newly arrived Haitians who now comprise 69 percent of the project population.

In 1985-86, Sarah J. Hale High School had an enrollment of 2,400 students; about 12 percent were enrolled in BEAM-UP. Sixty-five percent of the school's students were black and 35 percent were Hispanic. Although virtually all students whose native language was Creole were enrolled in the project, only 14 percent of the students whose family language is Spanish were enrolled, because most Hispanic students in the school had grown up in New York City and were sufficiently English-proficient to make them ineligible for the project.

As in previous program years, the criteria for entry into the program were:

- ninth or tenth grade level;
- a score below the twenty-first percentile on the Language Assessment Battery (LAB); and
- poor English skills as determined by pretest scores on the Criterion Referenced English Syntax Test (CREST).

The instructional staff consisted of six bilingual teachers offering content-area courses, three language teachers, and two career-area teachers. In addition, four paraprofessionals were assigned to bilingual classes. Compared with the previous year, in 1985-86 Haitian students were provided more courses and an additional French-speaking teacher.

Content-area courses offered in the students' native languages by the project were American studies, global history, economics, fundamental math, consumer math, preparation for the math Regents Competency Test (R.C.T.), general science, and biology. The courses followed the same curricula as mainstream courses.

Courses in English as a second language (E.S.L.), French, and Spanish were offered to bilingual students by the mainstream English/foreign language department. In addition, Project BEAM-UP students were offered cosmetology, business education, and health careers courses taught in English.

Project BEAM-UP's non-instructional staff was funded by Title VII. It included a director who was in charge of the project's administration. During 1985-86, the director's staff supervisory function was transferred to the school's subject-area assistant principals. Bilingual staff were included among the subject-area A.P.s' supervisory responsibilities. Title

VII also funded the services of a half-time secretary, a grade advisor a family assistant, and an educational assistant. Additional paraprofessional services were available to the program, but they were not funded by Title VII.

Project BEAM-UP is housed with the school's special education program in an annex adjacent to the main building. The noise level in some classrooms is high because thin partitions do not reach the ceiling. Scheduled reconstruction of the annex should lead to a significant reduction of the noise level.

II. STUDENT CHARACTERISTICS

In 1985-86, Project BEAM-UP served 251 students, of whom 69 percent were Haitian and 31 percent were Hispanic students from several Caribbean, Central American, and South American countries (see Table 1).

Because some students were mainstreamed and others entered the project throughout the school year, project enrollment varied. Although bilingual staff reported frequent mainstreaming of students in the upper grades, the number of BEAM-UP enrollees in these grades did not diminish.

Although 66 percent of the program students were overage for their grade placement (see Table 2), BEAM-UP staff noted that a disproportionate number of the project's students had high grade-point averages. For example, seven of the school's top ten students in 1985-86 were from the project.

TABLE 1

Number and Percent of Program
Students by Language and Country of Birth

Language	Country of Birth	Number	Percent
French	Haiti	121	52
Haitian Creole	Haiti	41	17
Spanish	Puerto Rico	27	12
	Other Caribbean	17	7
	Central & South America	29	12
TOTAL		235*	100

*Data were missing for 16 students.

- The majority of students (69 percent) were born in Haiti.
- Thirty-one percent of the program students are native speakers of Spanish. Over 60 percent of these students were born in Puerto Rico and in the Dominican Republic.

TABLE 2

Number of Program Students by Age and Grade

Age	Grade 9	Grade 10	Grade 11	Grade 12	Total
14	10	1	0	0	11
15	15	5	1	0	21
16	24	15	6	0	45
17	13	14	23	5	55
18	5	13	16	4	38
19	8	4	9	11	32
20	1	2	8	19	30
21	0	2	4	6	12
22	0	0	0	4	4
TOTAL	76	56	67	49	248*
Overage Students					
Number	51	35	37	40	163
Percent	67	62	55	82	66

*Expected age range for grade.

Note: Shaded areas indicate expected age range for grade.

*Data were missing for three students.

- Sixty-six percent of the program students were overage for their grade placement.
- The highest percentage of overage students was in grade twelve (82 percent).

III. FINDINGS

The evaluation findings for the 1985-86 academic year include both objectives measurable by standardized test results, and those based on examination of program materials and records, site visits, and interviews with relevant personnel. The findings are presented by the objectives proposed to and accepted by the Office of Bilingual Education and Minority Languages Affairs, U.S. Department of Education.

INSTRUCTIONAL COMPONENT

A member of the evaluation team observed five classes: advanced E.S.L., global history, economics, fundamental math, and general science. E.S.L. instruction was offered on three levels, from elementary to advanced. The emphasis was on aural comprehension and speaking, although writing was incorporated into the coursework, especially at the intermediate and advanced levels. Haitian students appear to have received more content-area instruction in English than the Hispanic students, partly because of the lack of written materials in Creole. Also, because some staff members did not speak Creole, a mixture of English and French was sometimes used. As one science teacher explained: "I teach in English and write on the board in English, but I use French to assist students with difficulties understanding." Thus, it appears that, for several reasons, the Haitians had greater exposure to English than did the Hispanics.

Content area classes were generally large, with 25 to 34 students. Even E.S.L. classes were large, with 20 to 30 students.

All career-area courses were taught in English with paraprofessional assistance. Because of the small size of the project, all of the advanced

courses that were offered in the mainstream could not also be offered bilingually. Consequently, for many juniors and seniors, elective courses were available only in English. As a result, to the extent they were able, students signed up for mainstream courses while remaining in BEAM-UP classes in order to continue receiving the special services that were available through the project. A smaller number of students (12) officially transferred into the mainstream program.

English as a Second Language

-- As a result of participating in the program, students will master an average of one English syntax objective per 20 days of instruction.

-- Program students will significantly increase their English reading ability.

The assessment instrument used to evaluate the first objective was the Criterion Referenced English Syntax Test* (CREST). The CREST was administered at the beginning and the end of each semester. A mastery score to indicate gains was computed for each student by calculating the difference between pretest and posttest. The number of months of instruction between testings was computed for each student by multiplying the number of months between testings by the student's attendance rate. The number of skills

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*The Criterion Referenced English Syntax Test (CREST) was developed by the Board of Education of the City of New York to measure mastery of instructional objectives of the High School E.S.L. curricula, and thus was constructed to maximize content validity. The test contains four items per curricular objective, and mastery of an objective is achieved when three of these items are answered correctly. The test measures mastery of 25 objectives at Levels 1 and 2, and 15 objectives at Level 3. The Kuder-Richardson reliability estimates for pretest and posttest administrations of the three levels of the CREST are:

Level 1 -- pretest (.91)/posttest (.96)
Level 2 -- pretest (.94)/posttest (.95)
Level 3 -- pretest (.91)/posttest (.91).

mastered per month was calculated by dividing the mean mastery by the mean number of months of instruction between testings.

Table 3 presents the test results for students who were pretested and posttested at the same level. Of the students who were reported to be taking E.S.L. classes (levels 1, 2, and 3), complete data (levels, pretest score, and posttest score) were available for 96 percent in the fall and 80 percent in the spring.

Examination of Table 3 reveals that overall, students mastered 1.3 CREST objectives per month in the fall, and 1.8 CREST objectives per month in the spring. The objective was thus achieved. Students tested at Level 3 had lower performance rates than those tested at lower levels, partly because fewer skills are tested at that level and partly because mastery of objectives takes longer at that level. The program objective appears to be based on the assumption that progress across levels is linear; the lower achievement at Level 3, which is found frequently in other high school bilingual programs, suggests that it is not.

TABLE 3

Results of the Criterion Referenced English Syntax Test

Test Level	Number of Students	PRETEST Mean	PRETEST S.D.	POSTTEST Mean	POSTTEST S.D.	MASTERY Mean	MASTERY S.D.	Mean Mastery Per Month
				FALL				
1	49	9.3	5.8	16.5	6.7	7.2	4.3	1.9
2	64	16.4	5.4	20.6	4.5	4.2	2.8	1.1
3	42	9.8	3.5	13.0	2.1	3.2	2.2	0.9
TOTAL	155	12.3	6.1	17.2	5.8	4.9	3.6	1.3
				SPRING				
1	46	7.6	4.7	14.8	6.9	7.2	4.5	2.6
2	56	15.1	5.9	19.7	4.4	4.6	3.6	1.6
3	27	9.4	2.3	11.7	2.4	2.3	1.6	0.8
TOTAL	129	11.2	6.0	16.3	6.1	5.1	4.1	1.8

- Program students mastered an average of 1.3 CREST objectives per month in the fall and 1.8 CREST objectives per month in the spring.

The New York City Reading Test was used to assess the second objective in this area. Raw scores were converted to Normal Curve Equivalent (N.C.E.) scores, which are normalized standard scores. They have the advantage of forming an equal interval scale so that scores and gains can be averaged. For the norming population, N.C.E.s have a mean of 50, a standard deviation of approximately 20, and a range from one to 99. Thus scores can be compared to the norming population. Because N.C.E.s are based on the norm group's scores, students must gain at the same rate as the norm group to stay at the same N.C.E. Therefore, an N.C.E. gain, no matter now small, indicates improvement greater than that of the norm group and a gain of seven N.C.E. points is considered exemplary.

Statistical significance was assessed by a correlated t-test model to demonstrate whether the mean gain is larger than would be expected by chance variation alone. The proportion of students who made actual gains is also presented, for descriptive purposes.

Table 4 presents the results on the New York City Reading Test. Posttest scores were significantly higher ($p=<.05$) than pretest scores, thus meeting the program objective. On average, students gained 16.7 N.C.E. points. Of those students tested, 96 percent made actual gains.

TABLE 4

Results of the New York City Reading Test

Number of Students	PRETEST Mean	PRETEST S.D.	POSTTEST Mean	POSTTEST S.D.	GAIN Mean	GAIN S.D.	Proportion Making Gains
28	22.8	9.7	39.5	2.7	16.7*	14.5	96.0

*Statistically significant at $p = <.05$.

- The objective was met: on average, students gained 16.7 N.C.E. points.

Native Language Arts

-- Spanish-speaking program students will show significant gains in Spanish reading achievement.

-- At least 70 percent of the Haitian Creole-speaking students will score at or above the 65 percent passing criterion in native language arts courses each semester/year.

Native language arts instruction was offered on three levels. Since there is no examination or accreditation for Haitian Creole, Haitian students were able to fulfill state foreign language requirements by passing the Regent's examination in French.

Hispanic Students. Data were not provided to assess the objective for Spanish-speaking students.

Haitian Students. Sixty-two Haitian-born students were enrolled in native language arts courses in the fall, and 52 students were enrolled in the spring. The students' passing rates were 95.1 percent in the fall and 82.7 in spring. The program objective was achieved both semesters.

Content-Area Subjects

-- Program students will have equal or higher passing rates than mainstream students in mathematics, science, and social studies courses.

Teachers appeared dedicated to meeting their students' educational needs. In most of the classes that were observed, students showed a very high degree of interest and participation. They were attentive, well-disciplined, and actively involved in their lessons. The project offered French and Spanish language content area classes. There were two classes in French for the following courses: American studies, economics, global studies, fundamental math, and general science. There was also a French-language preparation for the mathematics Regents Competency Test, a consumer math class, and a general science class. There was one Spanish-language class for the following: American studies, global studies, fundamentals of math, consumer math, general science, and biology.

Student Achievement. Statistical significance between program and mainstream passing rates were detemined through the application of a z-test for the difference between two proportions.*

Fall passing rates in content area courses were 76.7 percent in social studies, 80.1 percent in mathematics, and 86.1 percent in science.

Passing rates in the spring were lower, but were significantly higher than mainstream passing rates for mathematics and science. (See Table 5). Thus the project objective was partly met.

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*Bruning, J.L. and Kintz, B.L.; Computational Handbook of Statistics; Scott, Foresman and Company, 1968

TABLE 5

Comparison of Content Area Passing Rates in the Spring Term for Mainstream and Program Students

	Program Students		Mainstream Students		
	Number	Percent Passing	Number	Percent Passing	z
Mathematics	190	73.7	664	48.6	6.12**
Science	124	79.8	1,177	59.6	4.40**
Social Studies	203	68.9	1,760	63.7	1.46

**Statistically significant at the .01 level.

Business/Vocational Courses

-- At least 70 percent of the students will score at or above the 65 percent passing criterion in business and vocational courses each semester/year.

Project BEAM-UP emphasized its career-area component to students: 34 students took a keyboarding course and 15 took cosmetology -- both taught in English with paraprofessional assistance.

Student Achievement. Overall, 76.3 percent of the students enrolled in business/vocational courses passed teacher-made tests, thus meeting the program objective. Passing rates were 82.1 percent of the 84 students in the fall, and 62.0 percent of the 85 students in the spring.

ities. The support staff undertook activities such as screening and arranging tests for potential new students, assessing English and math levels, interviewing students for admission, translating records, programming students, providing guidance and counseling, record keeping, college advisement, and follow-up and discharge of mainstreamed students. In addition, these staff members were responsible for the bilingual student council and the parent advisory council. They also served as the liaison between teachers and parents.

The weekly student assessment card filled out by each teacher alerted the support team to possible student problems. In the event of problems, telephone calls were made and letters sent to parents. Project students participate in an array of activities and events, such as all-day trips that include an annual excursion on the Circle Line and an ethnic food festival. Hispanics and Haitians also form the majority of the school's baseball and soccer teams, respectively. Lastly, a nine-year-old bilingual magazine, Panorama, and a brand-new newsletter, Vox Populi, offer students the opportunity to contribute their creative expressions.

-- As a result of participating in the program, students' attendance will be significantly higher than the attendance of mainstream students.

Statitistical significance between program and school attendance was determined through the application of a z-test for the significance of a proportion*. This procedure tests whether the difference between one proportion (the program's attendance) and a standard proportion (the school's attendance) is greater than what can be expected by chance variation.

The attendance rate of program students (94.8) was 14.1 percentage points higher than the attendance rate of mainstream students (80.7). A z-test ($z = 5.52$) indicated that the difference is statistically significant. The objective was met.

-- All project staff members will attend at least eight in-service workshops or conferences each academic year.

Reportedly, all staff members attended monthly departmental meetings and faculty conferences. Thus, the objective was achieved.

In spite of its wide range of work responsibilities, the support staff appeared to be functioning well. Staff members had good rapport with the students. They were free to come into the staff office with any questions or problems they had. On several occasions, students were observed discussing a variety of issues with the grade advisor and the family assistant.

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*Bruning, J.L. and Kintz, B.L.; Computational Handbook of Statistics; Scott, Foresman and Company, 1968

Support-staff members seemed to know the students personally. They displayed a caring approach, one that would make any student feel welcome, especially recent immigrants. As one staff member stated:

> Our students want to be here. They like it more here; they get more attention. It's a smaller program (than the mainstream program), and they like the social and cultural services. We have activities not available in the mainstream, and a lot of warmth.

-- The Bilingual Parent Advisory Council (B.P.A.C.) will hold at least four meetings during each school year.

The project intended that parents would become actively involved, and two afternoon meetings were scheduled during the 1985-86 year. Although attendance at these meetings was less than ten, this was a core group that served as a liaison with other parents. More parental involvement activities were not possible because of the support team's large work load and the fact that most parents worked during the day. However, the project director noted that parents came into the office frequently, and staff members were continually in contact with them by telephone or letter. She noted that while most parents could not visit during the day, over 50 parents had attended the parent-teacher night.

IV. CONCLUSIONS AND RECOMMENDATIONS

Project BEAM-UP had the services of an energetic teaching and support staff; their enthusiasm was transmitted to the project's large number of motivated, achievement-oriented students. Project BEAM-UP's staff and students seem to be thriving. This is largely due to the staff's dedication and the commitment to the program of the school's new principal.

The major problem for the program was that some classes had enrollments of 34 students which is high for any class. In a bilingual program a large class creates the additional problem of grouping students with widely varying educational backgrounds. There simply were not enough classes to group the students appropriately. Only one of the five classes that was observed (advanced E.S.L.) used an educational paraprofessional. Increasing the number of classes, which would involve hiring more teachers and/or providing more educational paraprofessionals, would alleviate the overcrowding problem.